CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 78-79

WATER RECLAMATION REQUIREMENTS FOR:

CITY OF YOUNTVILLE; VETERANS HOME, DEPARTMENT OF VETERANS AFFAIRS, STATE OF CALIFORNIA; CHIMNEY ROCK GOLF COURSE, INC.: RETLAW ENTERPRISES, INC. FLORENCE HERRICK; AND ROBERT MONDAVI VINEYARDS, INC.

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter Board) finds that:

1. City of Yountville and Veterans Home, Department of Veterans Affairs, State of California (hereinafter dischargers) together with all the parties named above (hereinafter users) have applied for wastewater reclamation requirements.

2. The dischargers in their Report of Waste Discharge dated March 23, 1978, and consultant's letter dated June 27, 1978, proposed use of the treated wastewater from the dischargers' treatment plant for the following purposes:

User	Purpose	Acerage & Reservior Capacity
A. Veterans Home, Department of Veterans Affairs, State of California	Irrigation of hay fields	60 acres 8 acre ft.
B. Chimney Rock Golf Course, Inc.	Irrigation of golf course	100 acres 10 acre ft.
C. Retlaw Enterprises, Inc.	Frost protection and irrigation of vineyard	140 acres 30 acre ft.
D. Florence Herrick	Frost protection and irrigation of vineyard	150 acres 30 acre ft.
E. Robert Mondavi Vineyards, Inc.	Frost protection and irrigation of vineyard	430 acres 135 acre ft.

3. The dischargers are preparing maps to show the exact areas and fields to be irrigated and the domestic and irrigation wells in the vicinity. City of Yountville, as the purveyor of the treated wastewater to the proposed sites, will operate and maintain the major transmission facilities.

4. Section 13523 of the California Water Code provides that a Regional Board, after consulting with and receiving the recommendations of the State Department of Public Health, and if it determines such action to be necessary to protect the public health, safety, or welfare, shall prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water. The use of reclaimed water for the purposes specified in Finding 2 could affect the public health, safety, or welfare, and requirements for these uses are therefore necessary in accordance with the Water Code.

5. The Board adopted a Water Quality Control Plan for San Francisco Bay Basin in April 1975. The water quality objectives for reclaimed wastewater, as set forth in the Basin Plan, specify those limits prescribed in Title 17, Section 8025 through 8050, California Administrative Code. These objectives have been superseded by Title 22, Section 60301 - 60357, California Administrative Code.

6. The dischargers prepared an Environmental Impact Report (EIR) dated January 1974 and an amendment to the report dated May 1976 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). The report states:

> "The construction impacts associated with the reclaimed water pipeline are disruption of riparian habitat at the Napa River crossing, possible disruption of archaeological sites, noise, dust and traffic disruption on the Silverado Trail. With implimentation of proposed mitigation measures (identified in the EIR), none of these impacts would be significant."

7. The Board has notified City of Yountville; Veterans Home, Department of Veterans Affairs, State of California; Chimney Rock Golf Course, Inc.; Retlaw Enterprises, Inc.; Florence Herrick; Robert Mondavi Vineyards, Inc.; interested agencies and persons of its intent to prescribe water reclamation requirements for the proposed uses.

8. This Board at a public meeting heard and considered all comments pertaining to this reuse.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, that the dischargers and users shall comply with the following:

A. Reclaimed Wastewater Quality Specifications

1. Frost protection or irrigation of vineyards.

a. The reclaimed water shall be an adequately disinfected, oxidized, chemically-treated wastewater which has received the full treatment and filtration available at dischargers' treatment plant and shall meet the following quality limits at all times:

Turbidity	5 units average 10 units maximum for at least 95% of the time for a 24 hour period
Chlorine Residual	1.0 mg/l after 1 hour of contact
Coliform Organisms	Median MPN of 2.2 per 100 ml maximum as discharged or at some point in the treatment process. Median is to be determined from bacteriological results of last 7 days for which analyses have been completed. Not more than one sample shall exceed a MPN of 23 per 100 ml within any 30 day period.
5 day BOD	10 mg/l maximum 30 day average 20 mg/l maximum daily
Suspended Solids	15 mg/l maximum 30 day average 30 mg/l maximum daily
Grease	5 mg/l maximum 30 day average 10 mg/l maximum daily

b. Wastewater shall not be used on, or allowed to contact, producing vineyards for at least 30 days prior to the harvest of the grapes each year.

c. Only wine grapes shall be grown in the irrigated vineyards.

d. If lesser quality wastewater is pumped into the golf course pipeline, the effluent pond shall be drawn down the maximum extent practicable and kept at that level while three times the pipeline volume of acceptable quality wastewater shall be flushed through the pipeline before wastewater is diverted for frost protection or irrigation of vineyards. The acceptable quality of the wastewater at the pipe inlet shall be documented before flushing begins.

2. Golf Course Irrigation

a. The reclaimed water shall be an adequately disinfected, oxidized wastewater which has received the secondary treatment and filtration available at dischargers' treatment plant and shall meet the following quality limits at all times:

Coliform Organisms	Median MPN of 23 per 100 ml maximum as discharged, or at some point in the treatment process. Median is to be determined from bacteriological results of last 7 days for which analyses have been completed. MPN of 240 per 100 ml shall not be exceeded in two consecutive samples.
5 day BOD	30 mg/l maximum 30 day average 60 mg/l maximum daily
Suspended Solids	30 mg/l maximum 30 day average 60 mg/l maximum daily

b. Reclaimed wastewater shall not be applied within 100 feet of the well used for domestic water supply to the golf course.

c. If lesser quality wastewater is used on the hay field, the quality of wastewater in the hay field pipeline inlet must be shown to comply with golf course irrigation criteria before any wastewater is diverted to the golf course pipeline.

3. Fodder, fiber and Seed Crops

The reclaimed water shall be secondary effluent which meets the following quality limits at all times:

5-day BOD	30 mg/l maximum 30 day average 60 mg/l maximum daily
Suspended Solids	30 mg/l maximum 30 day average 60 mg/l maximum daily.

B. Reclaimed Wastewater Use Limitations

1. The treatment, distribution, or reuse of reclaimed wastewater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. Use of reclaimed wastewater shall be limited to the areas specified in Finding 2 of this Order unless written authorization is obtained from the Executive Officer.

3. Reclaimed wastewater shall be applied to use areas in a manner which will prevent public contact with the wastewater.

4. Areas irrigated with reclaimed wastewater shall be clearly identified with posted notices to the public. The method and form of notification shall be subject to the review and approval of the Executive Officer.

5. All equipment, including pumps, piping, valves, etc., which may at any time contain waste shall be adequately and clearly identified with warning signs, and the dischargers and users shall make all necessary provisions, in addition, to inform the public that the liquid contained is sewage and is unfit for human consumption.

6. No reclaimed wastewater used for irrigation shall be allowed to escape to any area outside the disposal areas, either by surface flow or airborne spray.

7. If a reclamation quality requirement should be violated, the reclaimed wastewater shall be, immediately, diverted to a use requiring a lower quality for which the wastewater qualifies, and not be reclaimed for a higher use until compliance with the higher quality requirements is demonstrated.

8. If a use requirement should be violated, the City of Yountville shall immediately terminate discharge to the user violating requirements and not renew the discharge until the user has corrected all violations and conditions which would permit the violations to recur.

C. Prohibitions

1. Unless written authorization permitting reclamation of wastewater on a specific field or defined area is received from this Board's Executive Officer, the City of Yountville shall not permit such a discharge of wastewater.

2. Wastewater used for reclamation shall not impair groundwater quality.

D. Provisions

1. All wastewater from the discharger' treatment plant shall be reclaimed during the period from May 16 through September 30th each year (Executive Officer may grant requested date extension when yearly rainfall is abnormally high).

2. The discharger shall promote and encourage increased reclamation to reduce the amount of discharge to the river during the period from October 1st through May 15th.

3. The dischargers shall comply with the following time schedule to assure compliance with Prohibitions C.1. and C.2. and Provisions D.1. and D.2. of this Order:

Task	Completion Date
a. Submit maps showing exact areas and fields to be irrigated	Ocotber 1, 1978
b. Submit maps showing locations of domestic and irrigation wells in, or adjacent to, the irrigation areas	October 1, 1978
c. Submit a report that is satisfactory to the Executive Officer after consultation with the Health Department, on how each well will be adequately protected and describe, in detail, the safeguards to prevent backflow of reclaimed wastewater into the well casing and seepage down the outside of the casing.	October 1, 1978
d. Submit schedule for completion of all work necessary to achieve full reclamation of the May 16th through September 30th wastewater flow	October 1, 1978
e. Comply with requirement to reclaim all wastewater from May 16th through September 30th each year	May 16, 1980

4. This Order includes all items in the attached "Requirements of Design for Reclamation Facilities" dated October 1, 1975.

5. The dischargers and users shall file with the Board technical reports on self-monitoring work performed according to detailed specifications as directed by the Executive Officer.

6. The dischargers and users shall permit the Board or its authorized representatives:

   a. Entry upon premises in which an effluent source is located or in which any required records are kept.

   b. Access to copy any records required to be kept under terms and conditions of this Order.

c. Inspection of any monitoring equipment or method required by this Order.

d. Sampling of any discharge.

7. The dischargers and users shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed by the user to achieve compliance with the water reclamation requirements.

8. The dischargers and users shall file with the Regional Board a report on waste discharge at least 180 days before making any material change or proposed change in the character, location or volume of reuse.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 19, 1978.

FRED H. DIERKER
Executive Officer

Attachment:
Requirements of Design for
Reclamation Facilities dated 10/1/75

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

OCTOBER 1, 1975

REQUIREMENTS OF DESIGN FOR RECLAMATION FACILITIES

1. Flexibility of Design. The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

2. Emergency Storage or Disposal. (a) Where short-term retention or disposal provisions are used as a reliability feature, these shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devices, provisions for odor control, conduits, and pumping and pump-back equipment. All of the equipment other than the pump-back equipment shall be either independent of the normal power supply or provided with a standby power source.

   (b) Where long-term storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits, and pumping and pump-back equipment. All of the equipment other than the pump-back equipment shall be either independent of the normal power supply or provided with a standby power source.

   (c) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

   (d) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.

   (e) Automatically actuated short-term retention or disposal provisions and automatically actuated long-term storage or disposal provisions shall include, in addition to provisions of (a), (b), (c), or (d) of this section, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process, and a manual reset to prevent automatic restart until the failure is corrected.

3. Primary Treatment. All primary treatment unit processes shall be provided with one of the following reliability features:

(a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.

(b) Standby primary treatment unit process.

(c) Long-term storage or disposal provisions.

4. Biological Treatment. All biological treatment unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple biological treatment units capable of producing oxidized wastewater with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions, and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

5. Secondary Sedimentation. All secondary sedimentation unit processes shall be provided with one of the following reliability features:

(a) Multiple sedimentation units capable of treating the entire flow with one unit not in operation.

(b) Standby sedimentation process.

(c) Long-term storage or disposal provisions.

6. Coagulation.

(a) All coagulation unit processes shall be provided with the following mandatory features for uninterrupted coagulant feed:

(1) Standby feeders,

(2) Adequate chemical stowage and conveyance facilities,

(3) Adequate reserve chemical supply, and

(4) Automatic dosage control.

(b) All coagulation unit processes shall be provided with one of the following reliability features:

(1) Alarm and multiple coagulation units capable of treating the entire flow with one unit not in operation;

(2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;

(3) Alarm and long-term storage or disposal provisions;

(4) Automatically actuated long-term storage or disposal provisions, or

(5) Alarm and standby coagulation process.

7. Filtration. All filtration unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

(e) Alarm and standby filtration unit process.

8. Disinfection.

(a) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following features for uninterrupted chlorine feed:

(1) Standby chlorine supply,

(2) Manifold systems to connect chlorine cylinders

(3) Chlorine scales, and

(4) Automatic devices for switching to full chlorine cylinders.

Automatic residual control of chlorine dosage, automatic measuring and recording of chlorine residual, and hydraulic performance studies may also be required.

(b) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following reliability features:

(1) Alarm and standby chlorinator;

(2) Alarm, short-term retention, or disposal provisions, and standby replacement equipment;

(3) Alarm and long-term storage or disposal provisions;

(4) Automatically actuated long-term storage or disposal provisions; or

(5) Alarm and multiple point chlorination, each with independent power source, separate chlorinator, and separate chlorine supply.

9. All required alarm devices shall be independent of the normal power supply of the reclamation plant.

10. Other Alternatives to Reliability Requirements. Other alternatives to reliability requirements set forth above may be accepted if the applicant demonstrates to the satisfaction of the Regional Board that the proposed alternative will assure an equal degree of reliability.